

WHAT IS CLAIMED IS:

1. A process for the synthesis of a fluorocarbon compound, comprising reacting a substrate hydrocarbyl compound containing at least one  $sp^3$ -hybridized halophoric carbon atom bearing at least two halogen atom substituents, at least one of which is a halogen atom having an atomic number greater than that of fluorine and said at least one halophoric carbon atom being bonded to at least one chalcogen, with at least one reactant which comprises a complex of a Bronstedt base with a defined amount  $n$  of hydrofluoric acid,  $n$  being at least 3 and not greater than 20.
2. The process as defined by Claim 1, said at least one halophoric carbon atom having at least one electron-withdrawing group depending therefrom.
3. The process as defined by Claim 2, said electron-withdrawing group comprising an inductively-induced electron-withdrawing group.
4. The process as defined by Claim 1, said at least one chalcogen having an atomic number of at least 10.
5. The process as defined by Claim 2, said at least one electron-withdrawing group comprising a halogen atom.
6. The process as defined by Claim 1, said at least one halophoric carbon atom bearing at least two halogen atoms having atomic numbers greater than fluorine.

7. The process as defined by Claim 1, said at least one halophoric carbon atom bearing three chlorine and/or fluorine atoms.

5           8. The process as defined by Claim 1, said at least one chalcogen being divalent.

9. The process as defined by Claim 1, said at least one chalcogen being bonded to an electron-donating moiety.  
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10. The process as defined by Claim 9, said electron-donating moiety comprising a chalcogen other than oxygen.  
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11. The process as defined by Claim 1, said electron-donating moiety comprising an alkyl or electron-rich aryl radical.  
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12. The process as defined by Claim 1, said at least one chalcogen comprising a sulfur atom.  
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13. The process as defined by Claim 12, further comprising oxidizing said at least one sulfur atom into a sulfone.  
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14. The process as defined by Claim 13, further comprising hydrolyzing the product of reaction into a sulfinic or sulfonic acid salt.  
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15. The process as defined by Claim 13, further comprising oxidizing the product of reaction into a sulfoxide, sulphenate or compound exhibiting an equivalent oxidation state.

16. The process as defined by Claim 15, further comprising halogenation of said product of oxidation.

5 17. The process as defined by Claim 1, said Bronstedt base comprising a pnictine or an aromatic heterocycle.

10 18. The process as defined by Claim 1, comprising introducing at least one fluorine atom onto said at least one halophoric carbon atom.

15 19. The process as defined by Claim 18, comprising introducing at least two fluorine atoms onto said at least one halophoric carbon atom.

20 20. The process as defined by Claim 18, comprising introducing at least three fluorine atoms onto said at least one halophoric carbon atom.

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